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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/721,597	11/25/2003	Martin Blessing	60,680-539	6026
7590 12/01/2005 DYKEMA GOSSETT PLLC Suite 300 39577 Woodward Avenue Bloomfield Hills, MI 48304			EXAMINER BELLINGER, JASON R	
			ART UNIT 3617	PAPER NUMBER

DATE MAILED: 12/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/721,597	BLESSING ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Jason R. Bellinger	3617	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 07 September 2005.
- 2a) ☒ This action is FINAL.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) 11-12 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 September 2005 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

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***Drawings***

1. The drawings were received on 7 September 2005. These drawings are approved.

***Claim Rejections - 35 USC § 103***

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
3. Claims 1 and 3-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Simon in view of Ebbinghaus et al. Simon shows an axle assembly 10 having a tube disposed about a longitudinal axis. The tube includes first and second end portions 20 and a center portion 11. The first and second end portions 20 have a uniform wall thickness (generally indicated by 23, shown in Figures 3-6).

As shown in Figures 3-4 and discussed in column 3, lines 62-66, the center portion 11 has a uniform cross-sectional wall thickness (generally designated by 17) at first and second axially spaced segments 18; and a non-uniform cross-sectional thickness (generally designated by 16) between the axially spaced segments 18. This non-uniform thickness 16 of the tube center portion has a generally elliptical cross-sectional interior contour.

The wall thickness 17 of the axially spaced segments 18 is greater than the minor wall thickness, and at least equal to (but generally greater than) the major wall thickness, of the center portion 11 between the axially spaced segments 18 (as shown

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in Figures 3-4, and 6). The axially spaced segments 18 would provide suspension system attachment points.

Simon does not disclose that cross-sectional wall thickness (generally designated by 22) of the intermediate center portion 21 of the tube between the first and second axially spaced segments 18 and the tube end portions 20 is non-uniform. As shown in Figures 1-4, Ebbinghaus et al teaches the use of a shaft tube 12 with an end portion having a uniform cross-sectional wall thickness (see the left side of Figure 1). A center portion of the tube 12 has an axially spaced segment with a uniform cross-sectional wall thickness, with a second axially spaced segment (generally at 14) having a non-uniform cross-sectional wall thickness between both the axially spaced segments and between the axially spaced segment 14 and the end portion of the tube 12 (see Figure 2). Therefore from this teaching, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the intermediate center portion 21 of Simon with a non-uniform wall thickness 22 for the purpose of providing a lightweight, yet durable axle assembly.

Given the fact that Figure 5 of Simon shows the wall thickness 17 of the axially spaced segments 18 being a non-uniform elliptical shape, it would have been obvious to one of ordinary skill in the art to form the wall thickness 22 of the intermediate center portion 21 located between the axially spaced segments 18 and the tube end portions 20 as a non-uniform elliptical shape in order to reduce the weight of the axle assembly.

In the event that the wall thickness 22 of the intermediate center portion 21 located between the axially spaced segments 18 and the tube end portions 20 is formed

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as a non-uniform elliptical shape (as taught and shown by 17 in Figure 5 of Simon), and the wall thickness 17 of the axially spaced portions 18 is uniform (as shown in Figures 3-4 and 6), then the wall thickness 17 (as shown in Figures 3-4 and 6) of the axially spaced segments 18 would be greater than the minor wall thickness, and at least equal to the major wall thickness, of the intermediate center portion 21 between the axially spaced segments 18 and the tube end portions 20.

4. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Simon in view of Ebbinghaus et al as applied to claims 1 and 3-10 above, and further in view of Alexoff ('375). Simon as modified by Ebbinghaus et al does not show the first and second end portions and the center portion of the axle tube having a common outer diameter. Figure 3D of Alexoff teaches the use of an axle tube 88 wherein the ends of the axle share a common outer diameter with the center portion.

Therefore from this teaching, it would have been obvious to one of ordinary skill in the art at the time of the invention to form the axle tube of Simon as modified by Ebbinghaus et al with a common outer diameter from the end portions to the center portion, dependent upon the type of vehicle to which the axle would be mounted and what other elements of a vehicle suspension system are to be mounted on the axle.

### ***Response to Arguments***

5. Applicant's arguments with respect to claims 1-10 have been considered but are moot in view of the new ground(s) of rejection.

Regarding the Applicant's argument that "if portion 22 of Simon were made of a non-uniform thickness, the surface contact between portions 18 and 22 would be reduced thereby weakening the joint", it should be noted that portions 18 and 19 of the axle of Simon are welded together. It is well known in the art that properly created welds provide increased strength at the site of the weld. Therefore, the joint between portions 18 and 19 would not be weakened if the interior bore were formed with a non-uniform thickness, since the material surrounding the bore is welded together.

### ***Conclusion***

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason R. Bellinger whose telephone number is 571-272-6680. The examiner can normally be reached on Mon - Thurs (9:00-4:30).


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Morano can be reached on 571-272-6684. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jason R Bellinger  
Examiner  
Art Unit 3617



jrb



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